

Work Order ID 67053

Friday, March 04, 2011 11:48:35 AM



Page 1

Item ID: D205-634-041

Accept



Setup Start



Revision ID:

Stop



Item Name: Replacement Skidtube

Start Date: 3/4/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 3/23/2011 Req'd Qty: 1.00



Customer:

Reference:

Approvals:

Process Plan:

[Signature]

Date: 11-03-11

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr

Revision Nbr

D2580

Rev.D DEO-D1

100

0.00



DOCUMENT CONTROL

DC

Memo

0.00

Document Control

Photocopy D205-634 bluefile & type labels per PPP D205-634-041

CHG003

CHG002

(OR for 011 CHG007)

8405103 11-5-3

110

0.00



BENDING MACHINE - SKIDTUBES

CNC Bend I

Memo

0.00

CNC Delta 100 Bender

1-Bend as per program D2580.C on CNC Bender and Folio 16

2-Cut tubes as per Dwg. D2580

3- scribe batch# in aft end of tube



11-3-31

B67053

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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Date:

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Date:

Stop



QC:

Date:

SPC (Y/N):

Date:

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

120

0.00



Skidtubes

Memo

0.00

Skidtubes

1- Deburr ends and remove bending marks

2- Prepare tube for swaging as per QS1 002

1 BB 11/04/01

130

0.00



QC

QC5- Inspect part completeness to step on W/O

Memo

0.00

Quality Control

1 0 BE 11/04/01

W/O:		WORK ORDER CHANGES					
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Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Stop



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

140

0.00



Skidtubes

Skidtubes

Memo

0.00

1-Weld step D2576 as per Dwg. D2580 and QSI004
A/R□□□ Aluminum Rod

M116577

BE 4/6/01

2-Grind welds on step as per Dwg D2580

3-Insert D4202-1 spacer, swage as per QSI002 and trim/ grind flush per QSI002
and dwg. Hold x-bolt with DT9701 Use tube expander 1/2 x17G to start
expansion and finish with 1/2 x 18G to achieve dwg dimention.

WELDED

AR

M116577

4-Drill holes for wearplates using DT 8217 & DT8937 Open holes to 19/64",
adjust stopper not to hit web. Debur

BE 4/6/01

6-Drill pilot holes for aft cap using DT 8215C open holes to 0.208". Debur

BE 4/6/01

7-Drill pilot holes for Tow ring using DT8091, open to .640" and Debur

BE 11/04/21

AS →

150

QC10- Inspect visual per QSI004- ground welds

0.00



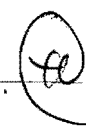
QC

Quality Control

Memo

0.00

Sub 4/25



W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: D205-634-041 PAR #: MA Fault Category: Skid tubes NCR: Yes No DQA: HA Date: 11.05.05
 Resolution: _____ Disposition: Use as is QA: N/C Closed: CL Date: 11/05/06

NCR: <u>67053</u>		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
11/04/25	th 160	Found at inspection the 4th saddles holes do not align with the saddles. the saddles sit about 1/16" out of align of each other.	<u>CP</u> 11.04.25 PS/042	- Sufficient alignment / tolerance to allow bolts to pass. Acceptable.	<u>N/A</u>	<u>S</u> works	<u>CP</u> 11.04.25 PS/042	<u>S</u> 11/04/25
		R.L. holes not Drilled Parallel with each other	<u>CP</u> 11.04.25				<u>CP</u> 11.04.25	<u>S</u> 11/04/25

NOTE: Date & initial all entries

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Customer:

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Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

160

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

170

Pressure Wash per QSI005 4.3

0.00



HandFinish

Memo

0.00

Hand Finishing

Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch and leave fwd cap out of solution.

1 BR 11-4-26.

180

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00



Powdercoat

Memo

0.00

Powder Coating

START TIME:
OVEN TEMPERATURE:
FINISH TIME:

M116964.

12:45.
320°
1:15.

1 BR 11-4-26.

W/O:		WORK ORDER CHANGES					
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Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

190

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

1 0 11/04/22

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

200

0.00



HandFinish

Hand Finishing

Memo

0.00

✓ 1-Install inserts & wearplates & Gaskets as per Dwg. D2580. Use a drop of Sikaflex on insert holes before installing wearplates
A/R ☐ ☐ ☐ Sikaflex-291 ☐ 11/16/98
Sikaflex expire date: 12/01

✓ 2-Coat D2594-3 O' rings with Petroleum Jelly and install on D2594-1 plugs as per Dwg D2580

3-Inspect for foreign object per QSI 024

✓ 4-Install 2855 Aft Cap as per Dwg D2580 and seal Fwd Step & Aft Cap with Sikaflex. Clean excess adhesive
A/R ☐ ☐ ☐ Sikaflex-291 ☐ 11/16/98
Sikaflex expire date: 12/01

✓ 5-Wing Walk as per Dwg D2580 and QSI 005 4.4
Batch: 11/17/98

1 0 11/16/98 12/01

W/O:		WORK ORDER CHANGES					
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Run Start



Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Stop



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

210 QC5- Inspect part completeness to step on W/O

0.00



0.00

QC

Memo

Quality Control

Inspect Aft Cap, Fwd Step and Wing Walk of work to Current Step Inspect for Foreign objects per QSI 024

220 Packaging

0.00



0.00

Packaging

Memo

Packaging

Identify and pack for shipping as per PPPD205-634-041

Location: 23PPP Rev: K

230 QC21- Final Inspection - Work Order Release

0.00



0.00

QC

Memo

Quality Control

11/5/3

11/5/4

11-053

W/O:		WORK ORDER CHANGES					
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Picklist Print

Friday, March 04, 2011 11:48:42 AM

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Work Order ID: 67053

Parent Item: D205-634-041

Parent Item Name: Replacement Skidtube



Start Date: 3/4/2011

Required Date: 3/23/2011

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev:N 02.08.28 FP was QC5 in Step 27; Added QC5 to Step 30
KJ IPP Rev P 10.02.19
per PAR09-043 EC verified by:DD
IPP Rev. O 06.02.28 Added paperwork EC
IPP Rev:P 07-07-09 SS Wearplates & Gaskets JLM IPP Rev:Q
10.12.01 as per chg003 DD verf:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

~~D2025~~ D2579



Spacer

Manufactured

No

140

Each

240.0000

20

20

Location

Loc Qty

Loc Code

LG

240

65529

26

66121

214

D2580-1



205 Skidtube bent detail

Manufactured

No

110

Each

11.0000

1

1

Location

Loc Qty

Loc Code

LG

11

59856

1

65509

5

65510

4

65511

1

D2576-3



Step (maching detail)

Manufactured

No

140

Each

40.0000

1

1

Location

Loc Qty

Loc Code

LG

40

52215

40



BE 11/04/19

B 61199
B 62400

① DP
11-3-31

BE 11/04/01

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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Work Order ID: 67053

Parent Item: D205-634-041

Parent Item Name: Replacement Skidtube

Start Date: 3/4/2011

Required Date: 3/23/2011

Start Qty: 1.00

Required Qty: 1.00

D2855

Manufactured No

200

Each

88.0000

1

1



Cap



HL

u10u127

Location

Loc Qty

Loc Code

FP6

1

56613

1

fp7

15

65519

15

ST024

72

50513

1

50770

28

51539

2

53791

6

65569

35

x1

AN3-5A

Purchased No

200

Each

705.0000

2

2



Bolt



HL

u10u127

Location

Loc Qty

Loc Code

ST350

705

115016

39

115371

500

116632

166

x2

AN960JD10L

NAS1149D0332J

Purchased No

200

Each

4.0000

2

2



Washer



HL

u10u127

Location

Loc Qty

Loc Code

ST335

4

11912

4

AA117291

x2

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Shop Packet Print

Page 2

Dart Aerospace Ltd

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Parent Item: D205-634-041

Parent Item Name: Replacement Skidtube

Start Date: 3/4/2011

Required Date: 3/23/2011

Start Qty: 1.00

Required Qty: 1.00

ALS7-1032-130 Purchased No

200 Each

1,604.000 50 50



Insert



22 11/04/27

Location

Loc Qty

Loc Code

FP

21

11717331

850

115079

21

ST282

1583

111529

32

113238

17

115502

500

115581

34

116800

1000

AN3C4A Purchased No

200 Each

2,473.000 50 50



BOLT



22 11/04/27

Location

Loc Qty

Loc Code

ST350

2473

115300

25

116075

337

116704

414

116924

1200

850

117010

497

AN960C10L NAS1149C0332 Purchased No

200 Each

61.0000 50 50



washer



22 11/04/27

Location

Loc Qty

Loc Code

ST245

61

117291

850

107534

59

108246

2

W/O:		WORK ORDER CHANGES					
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Start Date: 3/4/2011



Required Date: 3/23/2011

Start Qty: 1.00



Required Qty: 1.00

D3566-13 Manufactured No 200 Each 61.0000 1 1

 Gasket  4/10/11

Location	Loc Qty	Loc Code
FP011	36	
66550	36	<u>x1</u>
FP014	25	
64070	8	
66137	17	

D3566-5 Manufactured No 200 Each 40.0000 1 1

 Gasket  4/10/11

Location	Loc Qty	Loc Code
FP015	40	
63574	1	<u>B67589</u> <u>x1</u>
65528	13	
66146	6	
66552	20	

D3566-1 Manufactured No 200 Each 62.0000 2 2

 Gasket  4/10/11

Location	Loc Qty	Loc Code
FP	20	
66548	20	
FP011	19	
65525	19	<u>1368344</u> <u>y2</u>
FP015	23	
57715	1	
66040	20	
66129	2	

W/O:		WORK ORDER CHANGES					
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Work Order ID: 67053

Parent Item: D205-634-041


Parent Item Name: Replacement Skidtube

Start Date: 3/4/2011

Required Date: 3/23/2011

Start Qty: 1.00

Required Qty: 1.00

D3564-11 Manufactured No 200 Each 19.0000 1 1

 Wearshoe

Location

Loc Qty

Loc Code

FP019

19

B06154


X1

65159

5

66554

14

D3564-13 Manufactured No 200 Each 48.0000 1 1

 Wearshoe

Location

Loc Qty

Loc Code

FP16

25

65522

7

66549

18

Y1

FP17


23

59660

1

66136

22

D3564-9 Manufactured No 200 Each 20.0000 1 1

 Wearshoe

Location

Loc Qty

Loc Code

FP

1

55334

1

FP019

18

66153

18

FP19

1

62238

1

1367590

X1

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Start Date: 3/4/2011

Required Date: 3/23/2011

Start Qty: 1.00

Required Qty: 1.00

D3564-5

Manufactured No

200

Each

44.0000

1

1



Wearshoe



21 11/04/27

Location

Loc Qty

Loc Code

FG

1

34806

1

FP19

24

57525

1

58709

1

66551

22

FP-19

19

63575

1

65523

3

66148

15

D2594-3

Manufactured No

200

Each

967.0000

16

16



O-Ring, 205 Skidtube



21 11/04/27

Location

Loc Qty

Loc Code

FP

543

55546

19

58191

12

59358

12

65518

500

fpa

424

61762

424

21 11/04/27

W/O:		WORK ORDER CHANGES						
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Required Date: 3/23/2011

Start Qty: 1.00

Required Qty: 1.00

D2594-1

Manufactured No

200

Each

696.0000

16

16



Plug, 205 Skidtube



all 11/04/22

Location

Loc Qty

Loc Code

FP

483

42807

112

55002

71

66122

300

x16

FP14

213

58434

15

65512

133

65980

65

Friday, March 04, 2011 11:48:43 AM

Shop Packet Print

Page 7

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART**RELEASED**
07.06.28 #**DEO ATTACHED**

DESIGN <i>[Signature]</i>	DRAWN BY <i>[Signature]</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D2580	REV. D SHEET 1 OF 3
DATE 07.02.27		TITLE 205 SKIDTUBE ASSEMBLY	SCALE NTS
A	96.09.16	NEW ISSUE	
B	96.12.02	AS MANUFACTURED	
C	98.08.26	REDRAWN, INCLUDED DEO 9094/9097	
D	07.02.27	CHANGE TO SS WEARPLATES AND GASKETS, INCLUDE DEO 9124/9183	

QTY -041	QTY -045	Part Number	Description
X		D2580-041	SKIDTUBE ASSEMBLY
	X	D2580-045	SKIDTUBE ASSEMBLY
1	1	D2500-1-190	EXTRUSION
1	1	D2576-3	STEP
20	24	D2579	CROSS BOLT SPACER
16	16	D2594-1	PLUG
16	16	D2594-3	O-RING
1	1	D2596	205 WEB
1	1	D2855	AFT CAP
1	1	D3564-5	WEARSHOE
1	1	D3564-9	WEARSHOE
1	1	D3564-11	WEARSHOE
1	1	D3564-13	WEARSHOE
2	2	D3566-1	GASKET
1	1	D3566-5	GASKET
1	1	D3566-13	GASKET
50	50	ALS7-1032-130 or AKS7-1032-130 or AKS4-1032-130 or AELS-1032-130	INSERT
50	50	AN3C4A	BOLT
2	2	AN3-5A	BOLT
50	50	AN960C10L	WASHER
2	2	AN960JD10L	WASHER

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 67053

PR1-03-4

GENERAL NOTES:

- 1) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 2) ALL DIMENSIONS ARE IN INCHES
- 3) INSERT D2596 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241 ADHESIVE PER DART QSI 015 BEFORE BENDING. ENSURE HOLES LINE-UP.
- 4) BEND AS A SMOOTH RADIUS STARTING WITH A MAXIMUM CENTERLINE RADIUS OF 60 AND ENDING WITH A MINIMUM RADIUS OF 30. A MAXIMUM REDUCTION OF 0.200 IN DIAMETER IS ALLOWABLE IN THE BENT PORTION OF THE TUBE.
- 5) USE DART DRILL TEMPLATE TD2577-205 TO LOCATE AND DRILL $\varnothing 0.297$ HOLES FOR WEARSHOE INSERTS. INSTALL ALS7-1032-130 PER SECTION D-D (50 PLACES) AFTER FINISH. INSTALL AN3C4A BOLTS AND AN960C10L WASHERS WITH SIKAFLEX-241/-291.
- 6) WELDING TO BE DONE PER DART QSI 004.
- 7) FINISH:
SEE NOTES ON
PAGE 2 FOR D2580-041 AND
PAGE 3 FOR D2580-045
- 8) INSERT D2594-1 PLUG C/W D2594-3 O-RING IN HOLES MARKED 'P' (BOTH SIDES OF TUBE) AFTER FINISH (16 PLACES).

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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

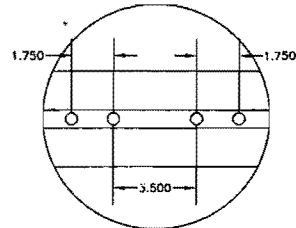
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Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

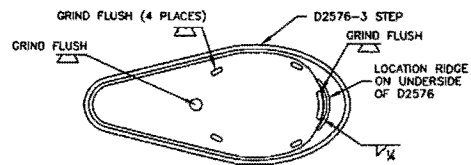
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DETAIL A
SCALE 5:24



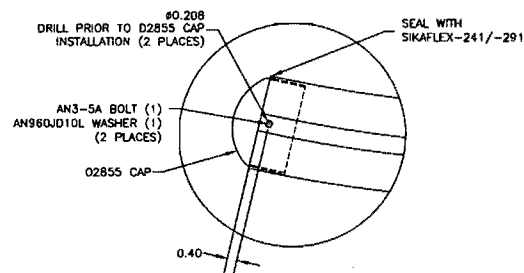
DETAIL B
SCALE 5:24



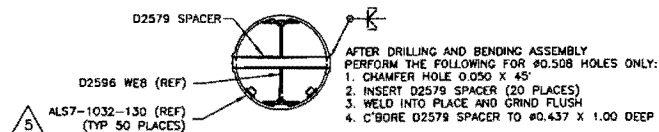
RELEASED
07.06.28

DEO ATTACHED

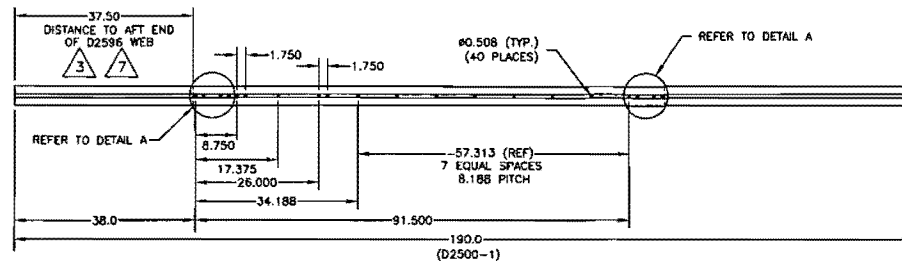
DETAIL C
SCALE 5:24



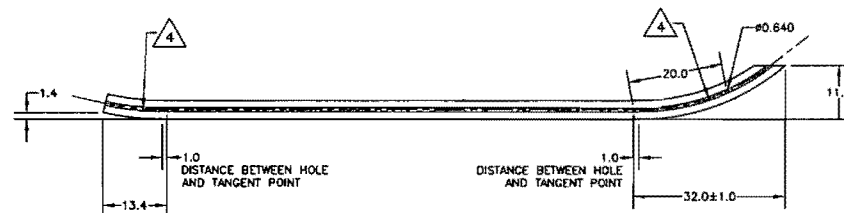
SECTION D-D
SCALE 5:24



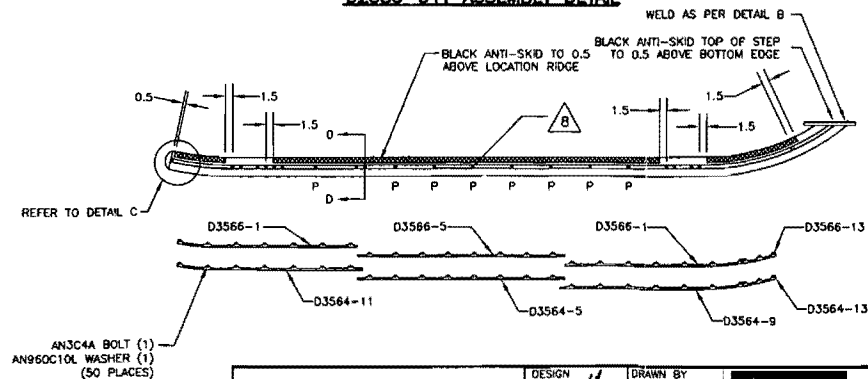
D2580-1 DRILLING DETAIL



D2580-1 BENDING AND CUTTING DETAIL



D2580-041 ASSEMBLY DETAIL



D2580-041 NOTES

- i) FINISH: ACID ETCH, ALODINE PER DART QSI 005 4.1 PRIOR TO INSERTING D2596 WEB POWDER COAT ASSEMBLY GLOSS WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3 BLACK ANTI-SKID PAINT AS INDICATED PER DART QSI 005 4.4

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DESIGN	DRAWN BY	DART	DART AEROSPACE LTD. WILLOWDALE, ONTARIO, CANADA
CHECKED	APPROVED	DRAWING NO.	REV. 0
DATE		D2580	SHEET 2 OF 3
		TITLE	SCALE
07.02.27		205 SKIDTUBE ASSEMBLY	1:24

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

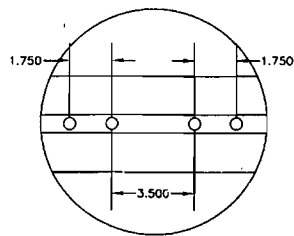
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Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

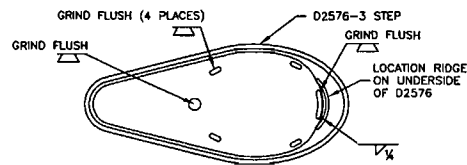
NOTE: Date & initial all entries

DETAIL E
SCALE 5:24



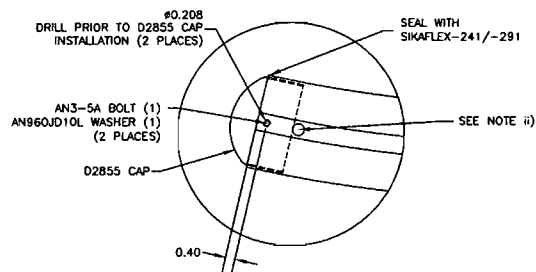
RELEASED
07-06-78

DETAIL F
SCALE 5:24

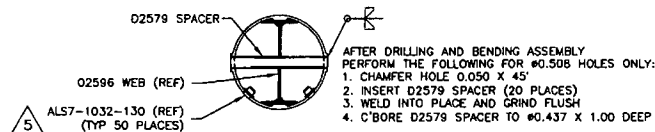


DEO ATTACHED

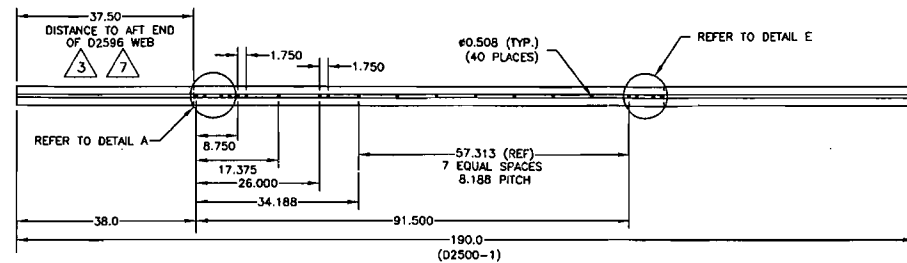
DETAIL G
SCALE 5:24



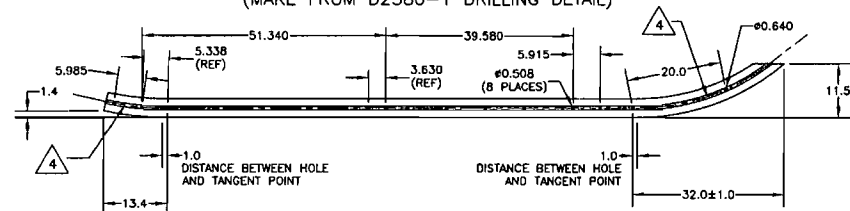
SECTION H-H
SCALE 5:24



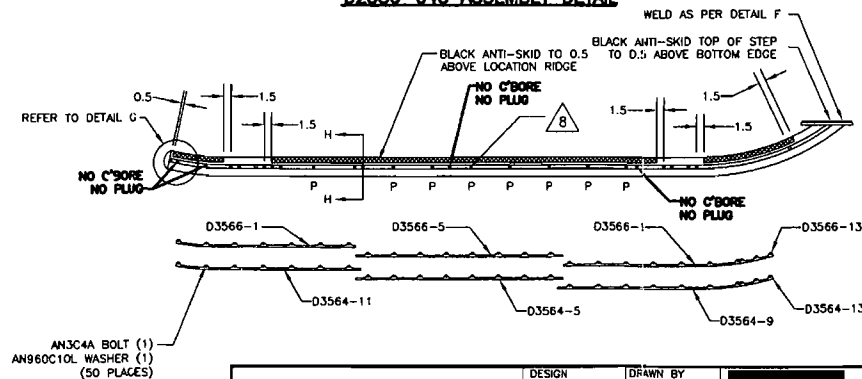
D2580-1 DRILLING DETAIL



D2580-5 BENDING AND CUTTING DETAIL
(MAKE FROM D2580-1 DRILLING DETAIL)



D2580-045 ASSEMBLY DETAIL



D2580-045 NOTES

- i) FINISH: ACID ETCH, ALODINE PER DART QSI 005 4.1 PRIOR TO INSERTING D2596 WEB
POWDER COAT ENTIRE ASSEMBLY GREEN (REF. 4.3.5.8) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT AS INDICATED PER DART QSI 005 4.4
- ii) IT IS ACCEPTABLE TO GRIND A RELIEF IN THE D2855 AFT CAP TO PREVENT INTERFERENCE
WITH THE SPACER AT THIS LOCATION

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DESIGN RH	DRAWN BY RH	DART DART AEROSPACE LTD. HARRISBURG, ONTARIO, CANADA	REV. 0
CHECKED H	APPROVED H	DRAWING NO. D2580	SHEET 3 OF 3
DATE 07.02.27	TITLE 205 SKIDTUBE ASSEMBLY	SCALE 1:24	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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NOTE: Date & initial all entries

DRAWING NO. D2580	TITLE 205 SKIDTUBE ASSEMBLY	REV. D	DART AEROSPACE LTD ENGINEERING ORDER		D.E.O. NO. D2580-D-1	SHEET NO. SHEET 1 OF 1	SCALE NTS
DRAWN <i>UP</i>	CHECKED <i>L</i>	MFG. APPR. <i>E</i>	APPROVED <i>MP</i>		DE APPR. <i>H</i>		
DATE 10.09.22	DATE 10.11.04	DATE 10.11.04	DATE 10/11/04		DATE 10.11.04		

PURPOSE:

CHANGE ALL WELDED CROSSBOLT SPACERS TO SWAGED SPACERS

CHANGE:

PARTS LIST IS AMENDED AS FOLLOWS:

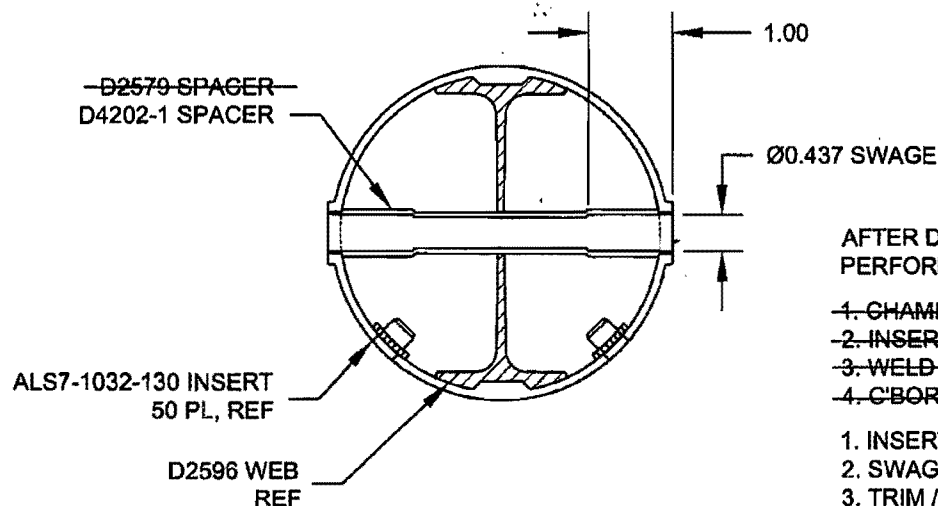
WAS

QTY	QTY	PART NUMBER	DESCRIPTION
-041	-045		
20	24	D2579	CROSS BOLT SPACER

IS

20	24	D4202-1	SPACER
----	----	---------	--------

SECTION D-D & SECTION H-H ARE AMENDED AS FOLLOWS:



SECTION D-D
NOT TO SCALE

SECTION H-H
NOT TO SCALE

RELEASED
2010-11-18
MP

AFTER DRILLING AND BENDING ASSEMBLY
PERFORM THE FOLLOWING FOR Ø0.508 HOLES ONLY:

1. CHAMFER HOLE 0.050 X 45°
2. INSERT D2579 SPACER (20 PLACES)
3. WELD INTO PLACE AND GRIND FLUSH
4. C-BORE D2579 SPACER TO Ø0.437 X 1.00 DEEP

1. INSERT D4202-1 SPACER, 20 PL (-041) OR 24 PL (-045)
2. SWAGE TO Ø0.437 X 1.00 DEEP PER QSI 002
3. TRIM / GRIND FLUSH PER QSI 002

W/O:		WORK ORDER CHANGES					
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Linda Lacelle

From: dshepherd@dartaero.com
Sent: April 18, 2011 11:36 AM
To: Linda Lacelle; Mike Petsche
Cc: Bill Beckett; 'Chris Provencal'; 'Eric Charbonneau'
Subject: Re: Alum. Solution Anneal - swaging

Makes sense to me ... We don't want to get caught short ... Make sure that if we do this, they are identified with the old CHG number.

David

Sent from my BlackBerry device on the Rogers Wireless Network

From: "Linda Lacelle" <llacelle@dartaero.com>
Date: Mon, 18 Apr 2011 11:21:10 -0400
To: 'Mike Petsche' <mpetsche@dartaero.com>; <dshepherd@dartaero.com>
Cc: 'Bill Beckett' <bbeckett@dartaero.com>; 'Chris Provencal' <cprovencal@dartaero.com>; 'Eric Charbonneau' <echarbonneau@dartaero.com>
Subject: RE: Alum. Solution Anneal - swaging

I am ready to weld some up, I don't want to get into trouble with L/T's on these, any objections??
LL

From: Mike Petsche [mailto:mpetsche@dartaero.com]
Sent: April 18, 2011 10:42 AM
To: 'Linda Lacelle'; dshepherd@dartaero.com
Cc: 'Bill Beckett'; 'Chris Provencal'; 'Eric Charbonneau'
Subject: RE: Alum. Solution Anneal - swaging

Well I'm not sure what to say.

CHG ⁰⁰⁷ ~~007~~

D2579

It is my understanding that the swaging will still make sense even with the extra hoops we need to jump through.

if there is still uncertainty on the delivery of the material, we CAN still weld them if we need to.

And while this might be less than "world class", couldn't we take some of our tubing that we have in stock and zap it with the welder to knock down the temper a little? Ground clamp on one end, torch on the other.....BZZZZZZT.

(I'm only sort of joking....because I bet it would work)

From: Linda Lacelle [mailto:llacelle@dartaero.com]
Sent: April 18, 2011 9:44 AM
To: dshepherd@dartaero.com; 'Mike Petsche'
Cc: Bill Beckett; Chris Provencal; Eric Charbonneau
Subject: RE: Alum. Solution Anneal - swaging
Importance: High

So any thoughts about going fwd for now with 205's? We are down to 6, and I don't want to run out as we have orders for these for early May.

LL

From: Linda Lacelle [mailto:llacelle@dartaero.com]

Sent: April 12, 2011 8:11 AM

To: dshepherd@dartaero.com; 'Mike Petsche' (mpetsche@dartaero.com)

Cc: Bill Beckett (bbeckett@dartaero.com); Chris Provencal (cprovencal@dartaero.com); Eric Charbonneau (echarbonneau@dartaero.com)

Subject: FW: Alum. Solution Anneal - swaging

So if we send them 400 pcs of the 6061T6 tube, they can temper it to T4 for a cost of 1850.00...

LL

From: John Spencer [mailto:johns@metcor.biz]

Sent: April 12, 2011 8:04 AM

To: llacelle@dartaero.com

Subject: Alum. Solution Anneal

Linda,

Metcor could process the tubes within a few days after receiving.

Price for the lot is \$1850 including conductivity test.

Would prefer 8 inch cut to length, if not we could manage 4 " lengths .

Please let me know and contact me on my cell.

Regards,

John Spencer

Metcor Inc.

Nadcap Certified

johns@metcor.biz

514-386-1620

NO. 249

AWS D17.1.2001
QUALIFICATION TEST RECORD

Name: Barclay Elliott
Job number: 67531
Part number: D205 634 041
Description: 205
Welding Process: Tig ☒ Mig ☐
Base material: Aluminum
Current: AC ☒ DC ☐

TEST REQUIREMENTS AND RESULTS

Visual: pass ☒ fail ☐
Penetration: pass ☒ fail ☐

UNACCEPTABLE

Cracks: pass ☒ fail ☐
Undercut: pass ☒ fail ☐
Pin holes: pass ☒ fail ☐
Overlap (cold lap): pass ☒ fail ☐
Porosity (surface): pass ☒ fail ☐
Coloration: pass ☒ fail ☐

Qualifier Pat Fanning Date of Test Coupon 11.04.25

Welder Barclay Elliott Date of Test Coupon 11.04.25

The above named individual is qualified in accordance with AWS D17.1.2001 to weld

